Title: Soft X-Ray Telescope (SXRT)

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Short Description: The soft X-ray telescope will provide direct images of the solar corona with spatial resolution of about 1 arcsecond. These images will show the global structure of the corona, the location and area of coronal holes, and the presence of even the smallest active regions and flares. The good spatial resolution will show the fine-scale magnetic structure and changes in these phenomena. These observations are essential for monitoring, predicting, and understanding the solar magnetic cycle, coronal heating, solar flares, coronal mass ejections, and the solar wind. These observations complement those of the White Light Coronagraph and Ultra-Violet Coronal Spectrometer; the SXRT will detect active regions and coronal holes near the east limb, thereby giving a week or more of advanced warning for disturbed geomagnetic conditions at Earth. The instrument consists of a grazing incidence collecting mirror with a full-disk film camera at the primary focus, and a secondary relay optic that feeds a CCD camera with a field of view about the size of an average active region.

Instrument Characteristics:

Mass:	170 kg
Volume:	1 cubic meter
Power:	4 amps at 28 Vdc (112 watts)
Data rate:	Digital: 100 kbps
	Film: 1000 frames
	H-alpha TV: 4.2 MHz
Pointing:	Direction: Sun-centered
	Accuracy: 60 arcsec
	Drift: 0.1 degree/hour
	Jitter: 5 arcsec peak to peak at 0.02 to 0.5 Hz

General Comments:

Early versions of this instrument have flown successfully of rockets. Improved versions are planned to fly on rockets and on SPARTAN.

On STO, images from the H-alpha camera should be monitored by the crew and by scientists on the ground.

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